REMARKS

Claims 1-26, and 70-101 are pending, and stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,578,066 to Logan et al. ("Logan"). It is respectfully submitted that all of the rejections are in error, and must be withdrawn.

Logan discloses an embodiment of a distributed-server-load-balancing system 100 in Fig. 1 that includes a client Z (102) and three distributed sites A, B, and C all coupled to the Internet 104. Site A includes a distributed server switch 106, with server switch 106 shown as being coupled to a plurality of remote severs. Similarly, sites B and C each include a distributed server switch (108 and 110, respectively), with each server switch 108, 110 shown as being coupled to a plurality of remote severs.

Logan states at col. 4, lines 30-36:

> The distributed-server network switches 106, 108, and 110 are organized as distributed sites, where each acts as an Authoritative Name Server for a sub-domain, e.g., "www.alteon.com". Each such distributed site is capable of responding to a domain name server query with the IP-address identities that correspond to "www.alteon.com".

This means, contrary to the Examiner's position, that each server switch 106, 108, 110 includes an embedded authoritative DNS server. In other words, each server switch 106, 108, 110 includes, in a single network device, both a switch and an ADNS server. Col. 1, line 48 *et seq.*

Remarks for particular claims follow.

Claim 1

Claim 1 includes the following feature not shown by Logan:

> receiving, at said load balancing switch, a plurality of network addresses generated by an authoritative domain name system server in response to a query regarding a domain name, the authoritative domain name system server and the load balancing switch being separate network devices.

At page 4 of the Office Action, the Examiner asserts that Logan shows these features in "fig. 2 and col. 6, lines 51-59." These portions of Logan do not support the Examiner's position.

Regarding Fig. 2, Logan states:

> FIG. 2 is a diagram illustrating the information a site-A can obtain about several other sites that could redundantly support client requests for web-page accesses;

Col. 3, lines 30-33. Logan further states:

> FIG. 2 is used to help illustrate distributed site monitoring environment 200. A typical main content server site 202 has access to a set of defined REAL SERVER's which correspond to VIP's running in distributed site switches, e.g., defined remote servers 204, 206, 208, 210, and 212.

Col. 6, lines 30-33.

These passages make clear that Logan's Fig. 2 does not disclose the above-mentioned features of claim 1. The site 202 of Fig. 2 is a site equivalent to sites A, B, and C of Fig. 1, which include server switches 106, 108, and 110, respectively. Fig. 2 merely adds that the server site switches 106, 108, 110 each are in communication, e.g., health checks, with a plurality of remote servers 204-212. Fig. 2 says nothing about whether Logan's server switches are "separate network devices" from an "authoritative domain name system server," as is claimed in claim 1.

The Examiner also cites to col. 6, lines 51-59 of Logan, which states:

> In FIG. 2, there are a set of four distributed sites to distributed-server switch 106. A health/throughput check is done for each defined remote server corresponding to a distributed site VIP. If there are five VIP's defined at distributed-server switch 106 which have corresponding Remote REAL SERVER's at each site, the switch at distributed-server switch 106 will have to do 20 Health/Throughput checks over the health-check interval (four distributed sites, with five Remote VIP's apiece).

This passage also fails to support the Examiner's assertion that the above-mentioned features of claim 1 are found in Logan. First, the passage is erroneous, in that Fig. 2 does not expressly show the distributed-server switch 106. Rather, switch 106 is shown in Fig. 1 of Logan. Second, this passage merely reiterates what is shown in Fig. 2, namely that the server switch 202 (which corresponds to one of server switches 106, 108, and 110) communicates, e.g., health/throughput checks, with remote "REAL SERVERS" 204-212.

In sum, claim 1's features of "receiving, at said load balancing switch, a plurality of network addresses generated by an authoritative domain name system server … the load balancing switch being separate network devices" are not shown in Logan. On the contrary, Logan shows a load balancing switch that includes an embedded authoritative DNS server, i.e., not a separate load balancing switch and authoritative DNS server. See Col. 4, lines 30-35.

The Examiner's error in interpreting Logan becomes even more clear when one reviews other literature of record that describes the commercial product, i.e., the Alteon WebServer, that was marketed by the assignee of the Logan patent, i.e., Alteon WebSystems, Inc. For instance, attached hereto is a

White Paper from Alteon WebSystems entitled "Enhancing Web User Experience with Global Server Load Balancing" (June 1999), which was previously submitted in an Information Disclosure Statement. Therein, at page 1, there is a discussion of Fig. 1 (see page 2) of the White Paper. The paper states (page 1):

> The DNS query is either responded to by an upstream DNS server's cache or is passed on until the request arrives at a DNS server embedded in one of the Web switches at site A, B, or C (in this case site A). Which site ultimately receives the request is determined by a myriad of DNS configuration parameters.
>
> The Web switches at site A, B, and C are configured to be "distributed sites" and all can act as Authoritative Domain Name servers for the domain www.Alteon.com.

This discussion is essentially identical to discussion in the Logan patent (e.g., col. 4, lines 30-36) and makes clear that the Alteon WebSwitch described by Logan has a built-in Authoritative Domain Name server.

Further support for this proposition that Logan (e.g., col. 4, lines 30-36) shows a switch with an integrated ADNS server is provided at page 3 of the White Paper, which states under the header "**Major Components**:" "GSLB consists of four major components that run on each Web switch in the GSLB group ... A DNS Authoritative Domain Name Server." Similarly, page 5 states, under the header "**DNS Authoritative Name Server**:" "Ultimately, GSLB is accomplished by the DNS Authoritative Name Server running in the Web switches at distributed sites returning the appropriate IP address to downstream DNS servers."

Accordingly, the rejection of claim 1 is erroneous and must be withdrawn, because Logan does not disclose "the authoritative domain name system server and the load balancing switch being separate network devices," as in claim 1.

Claim 7

Claim 7 includes the following feature not shown in Logan "recording, at each said site switch, a round trip time indicative of elapse time for exchanging messages between the respective site switch and a client machine of said computer network."

At page 6 of the Office Action, the Examiner asserts that this feature is shown at col. 5, lines 3-59 of Logan. This portion of Logan does not support the Examiner's position, and does not show the above-mentioned feature of claim 7. Logan does make reference to a client 102 (col. 5, lines 6 and 37), and to the "registered location of the client and server(s)" (col. 5, line 11). But, there is no mention whatsoever of "a round trip time indicative of elapse time for exchanging messages between the respective site switch and a client machine."

Rather, as explained with respect to Logan's Fig. 2, "each main site 202 [i.e., server switch 106, 108, 110 of Fig. 1] does a periodic health check of each defined remote server." Col. 6, lineIs 18-20. As a result, "a main site 202 can learn the average response times and content availability in preparation for a hand-off." Col. 6, lines 24-26.

Thus, Logan's server switches 106, 108, 110, 202 are measuring elapse times between themselves and the remote servers 204-212, and not between a "site switch and a client machine" as claimed in claim 7. Accordingly, the rejection must be withdrawn.

Claim 8

Claim 8 depends on claim 7, and further defines the "round trip time" of claim 7 as "an actual recorded time period between

the respective site switch receiving a connection request from said client machine and the respective site switch receiving an acknowledgement of a connection from said client machine."

The Examiner cites to col. 5, lines 3-59 and col. 6, lines 14-41 as support for the rejection. Col. 5, lines 3-59 were also cited with respect to claim 7, and as discussed above, this section of Logan does not refer to elapse time between a site switch and a client. Col. 6, lines 14-41 also fails to support the Examiner. Therein, Logan states:

> Each main site 202 does a periodic health and throughput check of each defined remote server. And each switch tests each of its defined remote REAL SERVER's which correspond to VIP's running in distributed-site switches. By executing a configurable iterative health-check to each remote server 204, 206, 208, 210, and 212, a main site 202 can learn the average response times and content availability in preparation for a hand-off. These content health-checks are preferably measured from start-time, to end-time, for all iterations of the health-check. Site and switch can be used interchangeably.

Nowhere in the cited discussion is there any mention of elapse time between a "site switch and a client machine," as set forth in claim 7. Accordingly, the further limitation of claim 8 also is not shown. Accordingly, the rejection of claim 8 must be withdrawn.

Claim 11

Claim 11 is dependent on claim 1, and includes a further feature, not shown in Logan, that "said arranging selects a network address of a least recently selected host server for placement at a higher position in said ordered list." This feature is not expressly shown or inherent in Logan.

The Examiner asserts, at page 7, that the "host with 900 msec response time is the least selected host." This is not a

statement made by Logan, but rather is an inference being drawn by the Examiner. Yet, this inference is unsupported. The fact that any of Logan's remote servers has a faster response time than the other servers does not mean that the faster server necessarily or inherently is a "least selected host. A faster response time for one of Logan's remote servers 204-212 (Fig. 2)in response to a health check by the server switch 106, 108, 110, 202 could be the result of a variety of factors completely unrelated to whether the server is a "least recently selected host server," as claimed. Accordingly, claim 11 is not anticipated, because claim 11's feature that "said arranging selects a network address of a least recently selected host server for placement at a higher position in said ordered list" is not inherent in, or shown or suggested by, Logan.

E. Claims 14, 20, 21 and 24

Claim 14 includes the features "said load balancing switch (a) being a separate network device from said authoritative domain name system server … and (c) capable of arranging a list of network addresses received from said authoritative domain name system server." These features are similar to features of claim 1 that were discussed above, and distinguish Logan for the same reasons discussed above for claim 1.

At page 8 of the Office Action, the Examiner provided the following explanation for his rejection of claim 14:

> [A]n authoritative domain name server [the authoritative names server not shown explicitly on the figures is part of the distributed site 100, (see fig. 1, col. 3, line 39 to col. 4, line 36 and col. 5, lines 19059), which describes the existence of a [*sic*] is a single authoritative domain name server for every sub-domain www.alteon.com represented by the system 100, also, as discussed above, Logan describes the switch sending the response from the authoritative domain name server back to the client indicates that

> the authoritative domain name server is part of the distributed network (see col. 9-25).

This passage reflects a misunderstanding of Logan. Each of server switches 106, 108, 110 of distributed-server-load-balancing system 100 includes an integral authoritative DNS server, as was stated above with respect to claim 1 (see, e.g., col. 4, lines 30-35). That is, the server switch 106, 108, 110, each of which is a single network device, performs both a switching function and an authoritative domain name server function.

However, none of server switches 106, 108, and 110 meets claim 14's feature of:

> a load balancing switch coupled to said authoritative domain name system server, said load balancing switch (a) being a separate network device from said authoritative domain name system server; (b) capable of collecting a first set of performance metrics regarding said computer network; and (c) capable of arranging a list of network addresses received from said authoritative domain name system server in accordance with said first set of performance metrics, the list of network devices being generated by the authoritative domain name system server in response to a query regarding a domain name.

Accordingly, the rejection of claim 14 as anticipated is erroneous.

Claims 20 and 21 include features (e.g., "round trip time" and "client machine") similar to those of claims 7 and 8, respectively, and are not anticipated by Logan for the same reasons stated above for claims 7 and 8.

Claim 24 includes the selection of "a least recently selected host server," as discussed above for claim 11, and is not anticipated by Logan for the same reasons stated above for claim 11.

Claims 70, 87, and 91

Claim 70 includes the following feature not shown by Logan:

> storing, in a load balancing switch of the data network, round trip time data, wherein the round trip time data is a time for exchanging at least one message between a first host server site switch of the data network and a first client machine of the data network.

Logan does not include "round trip time data" involving a "client machine," as discussed above for claim 7.

At page 13 of the Office Action, the Examiner asserts that that Logan shows the above-mentioned features of claim 70 in Fig. 2 and at col. 6, lines 30-41. This is not correct.

Col. 6, lines 30-41 state:

> In FIG. 2, the distributed-server switch 202 could determine that its preferred hand-off sites are defined remote servers 210, 204, 206, 208, in order of priority. The 900 msec response of defined remote server 210 is more attractive than the slower responses of the others. The response times of each remote server 210, 204, 206, 208 are recorded at main site 202 as a time-weighted average. This information is also communicated by each switch to all other switches using distributed-site status protocol. Each other switch does response time and throughput tests for each of its defined remote real servers, and computes total start-of-test to end-of-test response interval.

Clearly, this passage does not support the Examiner's position, because there is no mention of involvement of client machines. Rather, this section refers to response time checks between a server switch 106, 108, 110, 202 and its respective remote servers 204-212. Accordingly, the rejection of claim 70 must be withdrawn.

Claim 87 includes the following feature not shown by Logan:

> storing, at the load balancing switch, round trip time data, wherein each said round trip time data is a time

for exchanging at least one message between a respective one of a plurality of host server site switches of the data network and a respective one of a plurality of client machines of the data network.

At page 15 of the Office Action, the Examiner based his rejection of claim 87 on Fig. 2 and col. 6, lines 14-41 of Logan. These portions of Logan do not support the Examiner's rejection, for the same reasons discussed above for claims 7 and 8. In particular, Logan does not measure response times involving clients. Rather, Logan measures response times between a server switch 106, 108, 110, 202 and its respective remote servers 204-212.

Claim 91 includes the features:

> a means for storing round trip time data received from a plurality of host server site switches, each said round trip time data being a time for exchanging at least one message between a respective one of said host server site switches and a respective one of a plurality of client machines of the data network;
>
> . . .
>
> a means for ordering a plurality of network addresses that are responsive to the query based, at least in part, on stored round trip time data for the query-originating client machine.

At page 13, the Examiner based his rejection of claim 91 on the same portions of Logan used in the rejection of claim 70, i.e., Fig. 2 and at col. 6, lines 30-41.

The rejection of claim 91 is erroneous for the same reasons stated above for claim 70. The portions of Logan cited in support of the rejection do not have anything to do with client machines or round trip times involving client machines. Rather, Logan addresses round trip time between a server switch 106,

108, 110, 202 and its respective remote servers 204-212. The rejection of claim 91 must be withdrawn.

Claims 86 and 96

Claim 86 includes the following step not shown by Logan:

> selecting, from a plurality of network addresses responsive to the request, a best network address based, at least in part, on which of the plurality of network addresses has been least recently selected by the load balancing switch as a best network address in response to previous queries.

At pages 14-15, the Examiner based his rejection of claim 86 on col. 5, lines 46-59 and Tables I-IV. But, these citations do not support the rejection.

Col. 5, lines 46-59 state:

> The distributed-server load-balancing system 100 of FIG. 1 uses a domain name server to respond to DNS-requests for VIP sites. The "www.alteon.com" example represents several VIP's scattered through the United States with access to the same content for the Alteon Web distributed-server. When the switch receives a domain name server Name Request to resolve "www.alteon.com", associated with a VIP, it will respond with an appropriate domain name server response that matches the "best site" to respond to the subsequent content requests. Such best site, for example, represents the one that imposes minimum delays on the greatesat [*sic*] numbers of users. Other criteria are possible, such as defining the best site to respond as the one that is the least costly.

This passage does not support the rejection, notwithstanding Logan's statement that "Such best site, for example, represents the one that imposes minimum delays on the greatesat [*sic*] numbers of users." This statement does not expressly nor inherently mean that Logan's selection is based on the claimed feature of "which of the plurality of network addresses has been least recently selected by the load balancing switch." There

could be many reasons why one of Logan's sites would impose minimum delays. The Examiner is speculating that the reason for Logan's "minimum delays" matches claim 86, but this speculation is not based on an express statement of Logan or a necessary implication of Logan. Such speculation is not a proper basis for an anticipation rejection.

Tables I-IV also do not support the rejection of claim 86. Neither these tables, nor the discussion of them at col. 7, line 24 *et seq.*, expressly state or necessarily imply that the reason for a low response time is due to "which of the plurality of network addresses has been least recently selected by the load balancing switch," as claimed in claim 86. The Examiner is merely speculating as the reason for Logan's result. Again, this is an improper basis for an anticipation rejection.

Remaining Claims

The Examiner's rejections of the remaining claims are erroneous due to one or more of the above-stated grounds.

CONCLUSION

The now-pending claims are submitted to be allowable over Logan. Please direct questions or comments to the undersigned at (408) 941-7353.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as FIRST CLASS MAIL in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 11, 2005.

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